

Questions

- How do you debug problems with Spring Framework?
 - NoUniqueBeanDefinitionException
 - NoSuchBeanDefinitionException
- What is @Primary?
- What is @Qualifier?

No matching Components

```
@Component
public class ComplexAlgorithmImpl {

    @Autowired
    private SortAlgorithm sortAlgorithm;
```

```
public interface SortAlgorithm {
    public int[] sort(int[] numbers);
}
```

```
public class QuickSortAlgorithm implements SortAlgorithm {
```

```
public class BubbleSortAlgorithm implements SortAlgorithm {
```

```
UnsatisfiedDependencyException:  
Error creating bean with name 'binarySearchImpl':  
Unsatisfied dependency expressed through field 'sortAlgorithm'  
nested exception is org.springframework.beans.factory.:  
No qualifying bean of type  
'com.in28minutes.spring.basics.springin5steps.SortAlgorithm'  
available:  
expected at least 1 bean which qualifies as autowire candidate  
Dependency annotations:  
{@org.springframework.beans.factory.annotation.Autowired  
(required=true)}
```

Typically problems

- @Component missing
- or @ComponentScan not defined properly

Exception - Two matching Components

```
@Component  
public class ComplexAlgorithmImpl {  
  
    @Autowired  
    private SortAlgorithm sortAlgorithm;
```

```
public interface SortAlgorithm {  
    public int[] sort(int[] numbers);  
}
```

```
@Component  
public class QuickSortAlgorithm implements SortAlgorithm {
```

```
@Component  
public class BubbleSortAlgorithm implements SortAlgorithm {
```

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Field sortAlgorithm in
springin5steps.BinarySearchImpl required a single
bean, but 2 were found:

bubbleSortAlgorithm: defined in file
[BubbleSortAlgorithm.class]

quickSortAlgorithm: defined in file
[QuickSortAlgorithm.class]

Primary

@Component

@Primary

```
public class BubbleSortAlgorithm implements SortAlgorithm {
```


Qualifier

```
@Component
public class ComplexAlgorithmImpl {

    @Autowired
    @Qualifier("mainAlgorithm")
    private SortAlgorithm sortAlgorithm;
```

```
@Component
@Qualifier("mainAlgorithm")
public class BubbleSortAlgorithm implements SortAlgorithm {
```